

EPO - DG 1

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Claims

1. A microfluidic system comprising first and second liquid supply sources, the first and second supply sources supplying first and second microfluidic reactors via an upstream channel, the first and second reactors each having at least one downstream channel, wherein for at least one reactor, the resistance of each of its upstream channels is at least 10 times larger than the resistance of the downstream channel or channels.
2. A microfluidic system according to claim 1, wherein there are at least 1000 microfluidic reactors, each having an upstream channel from the first and second fluid supply streams, and a downstream channel.
3. A microfluidic system according to claim 2, wherein there are at least 50,000 microfluidic reactors, each having an upstream channel from the first and second fluid supply streams, and a downstream channel.
4. A microfluidic system according to any preceding claim, wherein the resistance of the upstream channels is at least 100 times larger than the resistance of the downstream channels.
5. A microfluidic system according to any preceding claim, wherein the microfluidic reactors are all identical.

6. A microfluidic system, according to any preceding claim, wherein the resistance of the upstream channels of substantially all the reactors is higher than the resistance of the downstream channel or channels.
7. A process for preparing a two phase composition using a microfluidic system comprising first and second fluid supply sources, the first and second supply sources supplying first and second microfluidic reactors via an upstream channel, the first and second reactors each having at least one downstream channel, wherein for at least one reactor, the resistance of each of its upstream channels is higher than the resistance of the downstream channel or channels; wherein for at least one reactor, one upstream channel becomes a continuous phase and one upstream channel becomes a dispersed phase in a downstream channel.
8. Process according to claim 7, wherein the process is for preparing an oil and water containing composition.
9. Process according to claim 8, wherein the oil and water containing composition is selected from the group comprising food products and personal care products.
10. Process according to claim 9, wherein the food products are selected from the group comprising sauces, dressings, spreadable emulsions, fresh cheese, cream cheese and mayonnaise.

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11. Process according to claim 9, wherein the personal care products are selected from the group comprising skin cream, shampoo, liquid soap.
12. Process according to any one of claims 7 to 11, wherein the two fluid sources have a viscosity ratio of at least 5, when measured at 1 s^{-1} at 25°C .